

RISE PLD Science Grade 7

	Below Proficient	Approaching Proficient	Proficient	Highly Proficient
	The Level 1 student is below proficient in applying all three dimensions as specified in the Utah SEEd standards. The student generally performs significantly below the standard for the grade-level, is able to partially access grade level content, and engages with the science and engineering practices and crosscutting concepts with extensive support.	The Level 2 student is approaching proficient in applying all three dimensions as specified in the Utah SEEd standards. The student performs slightly below the standard for the grade level, is able to access grade-level content, and engages with most of the science and engineering practices and crosscutting concepts with some independence and support.	The Level 3 student is proficient in applying all three dimensions as specified in the Utah SEEd standards. The student generally performs at the standard for the grade level, is able to access grade-level content, and engages with the science and engineering practices and crosscutting concepts independently.	The Level 4 student is highly proficient in applying all three dimensions as specified in the Utah SEEd standards. The student generally performs significantly above the standard for the grade level, is able to access above grade-level content, and engages with the science and engineering practices and crosscutting concepts independently.
Physical Science				
7.1	Select data from a given investigation that could be used as evidence to support the claim that change in an object's motion depends on its mass and forces including: electric, magnetic, and gravitational forces.	Describe how data from an investigation could be used as evidence to support the claim that change in an object's motion depends on its mass and forces including: electric, magnetic, and gravitational forces.	Conduct an investigation and use data from it to construct an argument from evidence that change in an object's motion depends on its mass and forces including: electric, magnetic, and gravitational forces.	Plan, conduct, and evaluate an investigation to produce data to use as evidence to construct an argument that change in an object's motion depends on its mass and forces including: electric, magnetic, and gravitational forces.
Earth Science				
7.2	Identify the components of a model that help explain the patterns in the flow or cycles of energy and matter throughout Earth's systems, including the Sun and Earth's interior as primary energy sources. Identify evidence to explain that Earth's processes have changed the Earth's surface at varying spatial and time scales.	Use a model to: 1) describe the flow of energy and Earth's materials within and among Earth's systems, 2) identify data that can provide an explanation for how geologic and atmospheric processes have changed Earth's surfaces at varying time and spatial scales, and 3) demonstrate that the layering of Earth's materials is caused by density.	Develop and use a model to describe the flow of energy and Earth's materials within and among Earth's systems. Analyze and interpret data to construct an explanation for how geologic and atmospheric processes have changed Earth's surfaces at varying time and spatial scales. Develop and use models to demonstrate that the layering of Earth's materials is caused by density and chemical composition. Use data to identify the patterns in the Earth based on density and chemical composition.	Evaluate and revise a model to describe the flow of energy and cycling of Earth's materials within and among Earth's systems. Make an argument from evidence for how geologic and atmospheric processes have changed Earth's surfaces at varying time and spatial scales. Evaluate and revise a model to demonstrate that the layering of Earth's materials is caused by density and chemical composition. Use data to predict the patterns in the Earth based on density and chemical composition.
7.2	Given criteria and constraints, identify a solution to a problem that takes into account potential impacts on people and the environment.	Given criteria and constraints, develop a successful solution to a problem that takes into account potential impacts on people and the environment that may limit possible solutions. Identify competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.	Define the criteria and constraints to developing a successful solution to a problem that takes into account specific geologic hazards on human-engineered structures and potential impacts on people and the environment that may limit possible solutions. Evaluate competing design solutions to determine how well they meet the criteria and constraints of the problem.	Define and use the criteria and constraints to develop a successful solution to a problem that takes into account specific geologic hazards on human-engineered structures and potential impacts on people and the environment that may limit possible solutions. Evaluate and revise competing design solutions to determine how well they meet the criteria and constraints of the problem.
Life Science				
7.3	Identify data or components of a model that describe that all living things are made up of one or more cells, multicellular organisms are made of specialized cells that work together to form sub-systems, and sub-systems work together.	Use data from an investigation for a model and/or an argument that all living things are made up of one or more cells, multicellular organisms are made of specialized cells that work together to form sub-systems, and sub-systems work together.	Use data from planned investigations to develop a model and/or an argument that all living things are made up of one or more cells, multicellular organisms are made of specialized cells that work together to form sub-systems, and sub-systems work together.	Use multiple sets of data from planned and carried out investigations to revise and evaluate models and/or construct arguments that all living things are made up of one or more cells and multicellular organisms are made of specialized cells that work together to form sub-systems. Construct an explanation of how sub-systems work together.
7.4	Identify the components of a model that describes why sexual and asexual reproduction have different effects on genetic variation of offspring and why structural changes to genes (mutations) affect the structure and function of an organism.	Use a model to describe why sexual and asexual reproduction have different effects on genetic variation of offspring and why structural changes to genes (mutations) affect the structure and function of an organism.	Develop and use a model to describe why sexual and asexual reproduction have different effects on genetic variation of offspring and why structural changes to genes (mutations) affect the structure and function of an organism.	Compare multiple models that describe how both sexual and asexual reproduction have different effects on genetic variation and why structural changes to genes (mutations) affect the structure and function of an organism.
7.4	Identify information that describes technologies that have improved humans' effectiveness in getting desired results from different types of reproduction.	Use data and resources to communicate information about technologies that have improved humans' effectiveness in getting desired results from different types of reproduction.	Use data and resources to obtain information about differing design solutions and how different technologies have improved humans' effectiveness in getting desired results from different types of reproduction.	Use data and resources to evaluate information about different technologies that have improved humans' effectiveness in getting desired results from different types of reproduction and be able to predict outcomes.
7.5	Identify the patterns in large data sets to explain why species can change over time. Communicate the similarities or differences found in past and present organisms or fossil records of past environmental conditions.	Use data to describe patterns in the fossil records and in the body structure to use as evidence for changes in populations over time, and use the data to support an explanation that some organisms survive better than other organisms because of differences in traits. Identify the causes and effects of genetic variation in organisms.	Use and analyze data for patterns in the fossil records and in the body structure to use as evidence for changes in populations over time, and use the data to construct an explanation that some organisms survive better than other organisms because of similarities and differences in traits. Describe causes and effects of genetic variation in organisms.	Analyze and interpret multiple data sets for patterns in the fossil records and in the body structure to use as evidence for changes in populations over time, and use the data to evaluate and revise an explanation that some organisms survive better than other organisms because of similarities and differences in traits. Construct an explanation for the causes and effects of genetic variation in organisms.